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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/479,712	01/07/00	BISARIA	M CL1365USNA

IM22/0330

William J Cotreau
E I du Pont de Nemours and Company
Legal Patents
1007 Market Street
Wilmington DE 19898

EXAMINER	
GRAY, J	
ART UNIT	PAPER NUMBER
1774	4

DATE MAILED: 03/30/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/479,712	BISARIA ET AL
Examiner	**Group Art Unit**
Jill Gray	1774

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-41* is/are pending in the application.

Of the above, claim(s) *21-35, 37, 39, and 41* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-20, 36, 38, and 40* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *4*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-20, 36, 38, and 40 are, drawn to a process and shaped article, classified in class 428, subclass 375.

II. Claims 21-35, 37, 39, and 41, drawn to a process, classified in class 427, subclass 389.9.

2. The inventions are distinct, each from the other because of the following reasons: Inventions of Group I and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the shaped article of Group I can be made by another and materially different process than that of Group II.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Cotreau on March 9, 2001 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-20, 36, 38,

and 40. Affirmation of this election must be made by applicant in replying to this Office action. Claims 21-35, 37, 39, and 41 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

Specification

6. The use of the trademark "THERMOCARB" has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

7. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, claim 9 is indefinite because the structural relationship between the non-liquid crystalline thermoplastic resin, nickel-coated graphite fiber and aromatic liquid crystalline polymer is unclear. Also, claim 9 only requires one nickel-coated graphite fiber. It is not clear if this is applicants' intent. Accordingly, the metes and bounds for which patent protection is being sought is not clear.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

9. Claims 9-11, 16-17, 20, 38, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Braun et al, 6,180,275, (Braun).

Braun teaches a shaped article comprising a molding composition comprised of a polymer resin combined with highly conductive carbon and/or graphite powder filler. See abstract. In addition, Braun teaches that additional components may be added such as nickel-coated graphite fiber concentrates having a thermoplastic or thermoset sizing, wherein these concentrates are added to binder resins such as liquid crystal polymers, and pelletized. See column 3, lines 1-15,

and column 4, lines 24-27. Moreover, Braun teaches that his shaped article can be a bipolar plate having channel inscribed upon its surface.

Therefore, the prior art teachings of Braun anticipate the invention as claimed in claims 9-11, 16-17, 20, 28 and 40.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-8, 12-15, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun, as applied above to claims 9-11, 16-17, 20, 28 and 40, in view of Wakui, et al, 4,851,497 (Wakui) and Luxon et al, 4,818,615 (Luxon).

Braun is a set forth above but is silent as to the specific liquid crystalline polymer resin and the specific embodiment of nickel-coated graphite fibers. It is noted, however, that Braun teaches that metal coated carbon fibers can be added to his composition.

Wakui teaches a process for producing a shaped article and shaped article, said process comprising combining an injection moldable aromatic thermoplastic liquid crystalline polymer resin, and filler material, such as carbon fibers impregnated with a non-liquid crystalline thermoplastic binder resin, forming a mixture, feeding the mixture to an injection molding

machine, molding and removing the molded mixture from the mold. Wakui does not specifically teach nickel-coated graphite fibers.

Luxon teaches elongated molding granules comprising reinforcing fibers, which can be present in amounts within applicants range, said reinforcing fibers being substantially surrounded by a thermoplastic adhesive and pelletized, wherein the resultant fiber pellets are mixed with resin pellets to form a blended mixture, which is subsequently fed to a molding machined and molded. Furthermore, Luxon teaches that his desired reinforcing fibers are nickel-coated graphite fibers because superior electromagnetic shielding can be obtained at vastly increased rates of production at equal (prior) load levels.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process and shaped article of Braun by incorporating nickel-coated graphite fibers as taught by Luxon, to produce a molding composition with significantly better EMI shielding at increased rates of production. Moreover, it is the examiner's position that the teachings of Braun of metal coated graphite fiber and metal coated carbon fiber would have provided direction to the skilled artisan for the inclusion of these components, and that said teachings would have provided a suggestion to the skilled artisan that, known metal coated graphite fibers, such as nickel-coated graphite fibers, could be used with a reasonable expectation of success. As to the specific liquid crystal polymer, this would have been obvious to determine by the skilled artisan commensurate with the desired properties of the end product. Additionally,

Wakui teaches liquid crystalline polymers of the type contemplated by applicants, said polymer being reinforced with filler materials and injection molded.

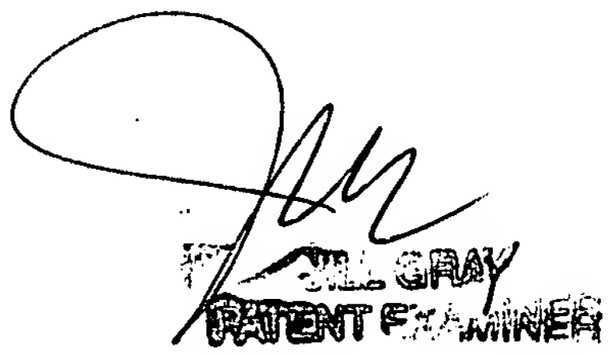
Therefore, when considered as a whole, it is the examiner's position that the combined teachings in the prior art would have rendered obvious the invention as presently claimed in claims 1-8, 12-15 and 18-19.

No claims are allowed.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. M. Gray whose telephone number is (703) 308-2381.



jmg

March 26, 2001